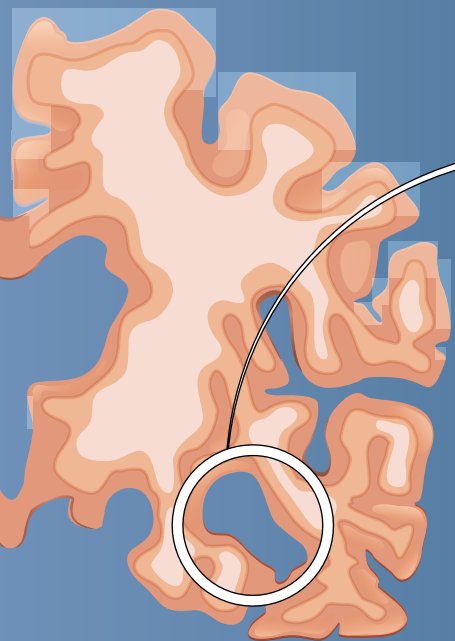
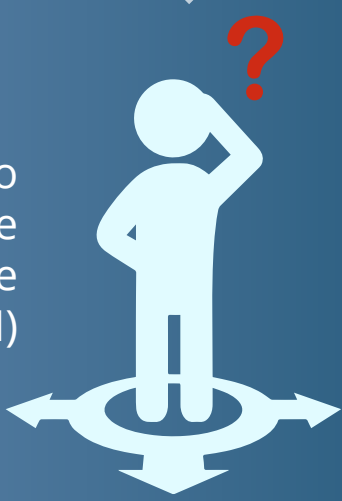


Real-time Navigation Distinguishes Between Amyloid-Positive and -Negative Amnestic Mild Cognitive Impairment



Hippocampal deficits are characteristic of Alzheimers disease

Navigation abilities begin to deteriorate in early-stage amnestic mild cognitive impairment (aMCI)



Study question

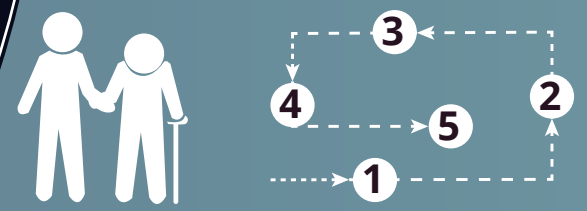
Are navigation tests sensitive enough to separate patients with amyloid-positive (A+) and -negative (A-) aMCI?

21 patients with aMCI
15 healthy controls

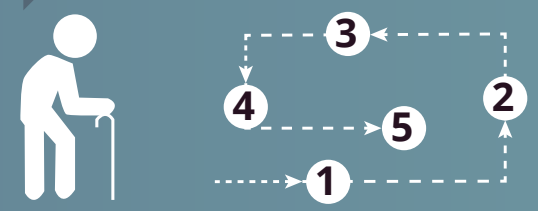
11 A+ 10 A-

Three-part navigation test

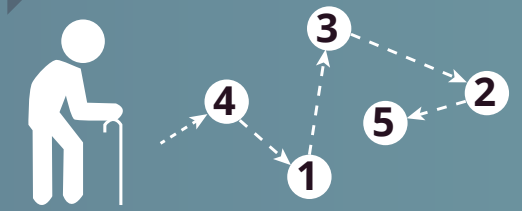
1 Investigator-guided walk to target items



2 Egocentric route finding

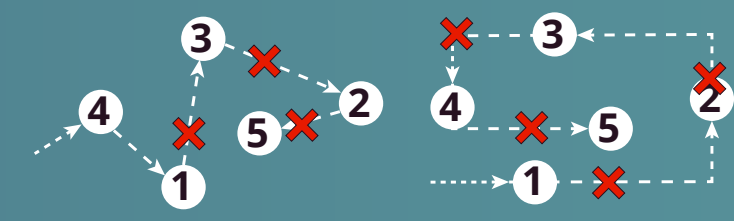
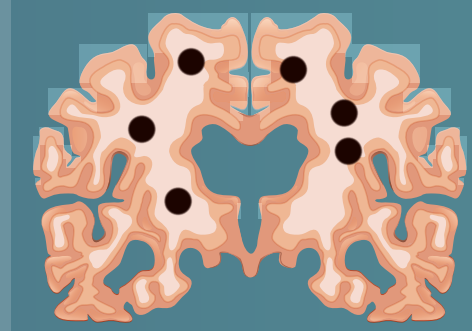


3 Allocentric route finding



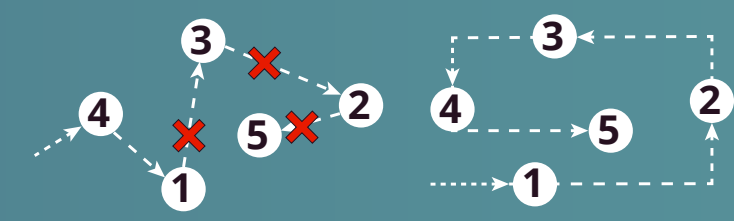
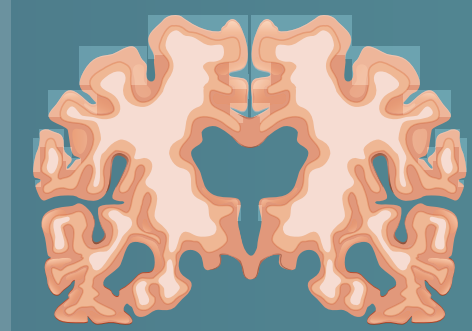
Imaging of navigation and locomotion induced brain activation

Amyloid-positive patients

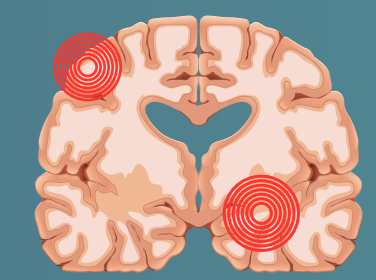


A+ patients had higher egocentric and allocentric error rates than other groups

Amyloid-negative patients



A- patients only made more errors on allocentric routes



A+ patients had less hippocampal and cortical activation during navigation than A- patients

Real-time navigation is a valuable diagnostic tool that can distinguish between patients with A+ and A- aMCI